

**AMENDMENTS TO THE DRAWINGS:**

Corrected Drawing of FIG. 7, labeled "REPLACEMENT SHEET," is enclosed. The changes in FIG. 7 are highlighted in red in the attached annotated copy of the corrected drawing.

Approval of these changes and entry of the corrected Drawings is respectfully requested.

**REMARKS**

In accordance with the foregoing, the specification and claim 1 have been amended.  
Claims 1-7 are pending and under consideration.

**REJECTION OF CLAIMS 1-2, 4 AND 7 UNDER 35 U.S.C 103(A) AS BEING UNPATENTABLE  
OVER POTTER ET AL. (U.S. PAT. NO. 6,533,587) IN VIEW OF NEWLY CITED PEROTTO ET  
AL. (U.S. PAT. NO. 3,478,251)**

**THE POTTER REFERENCE**

Potter discloses in Fig. 3 a mother board 20, a riser card 30, and a connector 34 for connecting the riser card to the mother board. The riser card 30 includes a circuit card 32 and first and second board connectors 36a and 36b mounted horizontally on opposite sides of the card 32. The board connectors include slots for receiving expansion boards 40.

**THE PEROTTO REFERENCE**

Perotto discloses a modular electronic circuit assembly including a plurality of circuit modules. Each circuit module includes a plate 2 and plural 'electronic elements 3-11. The circuit modules 2, 341 are mounted to pluggable boards 12, 13, 14 in separated arrays, as shown in Fig. 2, along the series of holes 42, 43, 44. Pairs of pluggable boards, such as 12 and 13, have their hole series arranged in alternate positions, so that when two boards are joined together, the arrays of circuit modules 2, 3-11 on one board become inserted between (interleaved with) the arrays of circuit modules 2, 3-11 on the other board.

**INDEPENDENT CLAIMS 1 AND 2**

Claim 1 includes the following feature:

the electronic parts first mounting board of the first board unit and the electronic parts second mounting board of the second board unit facing each other, being located at different heights relative to the mother board, and overlapping each other when seen from the tops of the first and second daughter boards.

Claim 2 includes the following feature:

the electronic parts first mounting board of the first board unit and the electronic parts second mounting board of the second board unit facing each other, and overlapping with each other when seen from the tops of the first and second daughter boards.

#### **POTTER TEACHES AWAY FROM THE CLAIMED INVENTION**

As discussed in the prior response, Potter teaches “away from” the claimed invention. Potter discloses that a single riser card 32 (see Fig. 2 and Fig. 3 of Potter) (a “daughter board”) is advantageous over a pair of riser cards 12 and 13 (see prior art Fig. 1 of Potter). See Potter, column 2, lines 51-55. By contrast, the claimed invention employs two daughter boards: a first daughter board and a second daughter board as is set forth in the independent claims 1 and 2, set forth above.

#### **THERE IS NO MOTIVATION TO COMBINE POTTER AND PEROTTO**

Potter repeatedly disparages use of two riser boards, on the basis that a two-riser-board configuration of the prior art (Fig. 1) results in air flow problems (column 1, lines 53-65), a lengthy PCI bus length (column, 3, line 58), and bulky projections (column 3, line 59). The objective of Potter is to provide allegedly more compact systems with air ventilation paths (column 2, lines 17-18). Potter allegedly achieves such reduced space consumption and improved air flow by providing a single riser card accommodating two expansion boards (column 2, lines 51-55).

Perotto, in contrast, specifically requires use of two (or more) riser boards to achieve allegedly improved density of components and low density of printed wirings. See Perotto, for example, column 2, line 67 to column 3, line 8.

Thus, Potter specifically discourages use of two riser boards, wherein Perotto specifically encourages use of two riser boards. The Perotto structure accordingly is contrary to the structure of Potter and to the intended purpose of Potter of utilizing only a single riser board to provide more compact systems with air ventilation paths. One of ordinary skill in the art at the time of the present invention would not have been motivated to turn to Perotto (two riser boards) to address

the problem sought to be solved by Potter (elimination of a two (or more) -riser-board configuration).

Because motivation to combine Potter and Perotto is lacking, the examiner has not established a prima facie case of obviousness, and the obviousness rejection is thus improper.

**EVEN IF COMBINED, THE POTTER/PEROTTO COMBINATION DOES NOT DISCLOSE THE INVENTION RECITED IN INDEPENDENT CLAIM 1**

Even if Potter and Perotto were somehow properly combinable, their combination still would not result in the invention recited in independent claim 1.

In the first part of the rejection of independent claim 1, the examiner states that "Potter et al. does not disclose the mounting boards of each unit that being overlapping with each other when seen from the tops of the daughter boards." The examiner attempts to overcome this deficiency in Potter as a teaching reference by relying on Perotto, stating that "Perotto et al. teaches an assembly as shown in figures 1-3 comprising first and second raiser boards (12, 13), each having an electronic parts board (2) facing and overlapping with each other."

The examiner's interpretation of Perotto is in error. Perotto specifically states that the plates 2 are arranged in a plane parallel to the riser board 12, 13, and that the plates 2 face a contiguous riser board. See Perotto, column 3, lines 24-26. In addition, the arrays of circuit modules packaged on one riser board are inserted between (i.e. interleaved with) the arrays of circuit modules packaged on another riser board. As shown in Fig. 1 of Perotto, this results in the plate 2 of one riser board 12 being offset from, or staggered with respect to, the plate 2 of another riser board 13. Thus, in the Perotto reference, the plate 2 (alleged electronic parts mounting board) of one riser board does not overlap, but rather is staggered, with respect to a plate 2 of another riser board. Accordingly, Perotto does not cure the deficiency of Potter to disclose that electronic parts mounting boards are overlapping when seen from the tops of the riser boards (alleged daughter boards). Thus, the Potter/Perotto combination proposed by the examiner does not disclose each and every feature of independent claim 1.

In the second part of the rejection of independent claim 1 at page 3 of the Action, the fourth full paragraph, the examiner states:

Both of the references do not specific disclose the first and second board units being different height. It would have been obvious to one having ordinary, skill in the art at the time the invention was made to have first and second board units being at different heights in order to provide easy installation and trouble shooting.

This part of the rejection is not clear because independent claim 1 does not require the "first and second board units (for example, 70-1 and 70-2) being at different heights." Independent claim 1 recites "the electronic parts first mounting board... and the electronic parts second mounting board... being located at different heights." Illustrative such "mounting board" elements are shown for example in Fig. 6 81-1 and 81-2 supported respectively on the first and second board units 70-1 and 70-2 and in an stacked relationship of various different heights relevant to the motherboard 60.

It is believed apparent that the Examiner has misunderstood this recitation of independent claim 1 and accordingly the Examiner's contentions relating to same fail to support any rejection of claim 1.

It follows that independent claim 1 is distinguishable over Potter/Perotto, based on Potter/Perotto failing to disclose an overlapping relationship between "the electronic parts first mounting board of the first board unit and the electronic parts second mounting board of the second board unit."

**EVEN IF COMBINED, THE POTTER/PEROTTO COMBINATION DOES NOT DISCLOSE OR RENDER OBVIOUS THE INVENTION RECITED IN INDEPENDENT CLAIM 2**

Even if Potter and Perotto were somehow properly combinable, their combination still would not result in the invention recited in independent claim 2.

In the first part of the rejection of independent claim 2 beginning at the first paragraph following the presentation of the recitations of claim 1, spanning pages 3-4, the Examiner states that:

Potter does not disclose the connector (13, 10) of the first and second board units being formed on lower and upper regions of each of the daughter boards (12), and overlapping with each other when seen from the tops of the daughter boards.

The examiner then relies on Perotto, stating that:

Perotto et al. teaches an assembly as shown in figures 1-3 comprising first and second raiser boards (12, 13), each having an electronic parts board (2) facing and overlapping with each other.

(Page 4, lines 5-7, from and of the Action)

This part of the rejection is not clear. Claim 2 does not recite "the connectors overlapping with each other." **Clarification is requested.**

As urged previously in traversing the rejection of claim 1, in Perotto, the plate 2 (alleged electronic parts mounting board) of one riser board does not overlap with a plate 2 of another riser board. Accordingly, Perotto does not cure the deficiency of Potter to disclose that electronic parts mounting boards are overlapping. Thus, the Potter/Perotto combination proposed by the examiner does not disclose each and every feature of independent claim 2.

In the second part of the rejection of independent claim 2, the examiner states:

Both of the references do not specifically disclose the first and second board units being different heights. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have first and second board units being at different heights in order to provide easy installation and trouble shooting.

This part of the rejection is not clear because independent claim 2 does not require the "first and second board units (for example, 70-1 and 70-2) being at different heights." In fact, independent claim 2 contains no recitation of "different heights". **The Examiner accordingly is requested to clarify this contention advanced in support of the rejection of independent claim 2.**

Moreover, it is respectfully submitted that the beyond the deficiencies of the rejection of independent claim 2 noted hereinabove, the rejection of same is clearly deficient since

Potter/Perotto fail to disclose an overlapping relationship between the "the electronic parts first mounting board of the first board unit and the electronic parts second mounting board of the second board unit"

### ERRATA

The response filed March 16, 2006, at page 10, the last paragraph under the heading "THE POTTER REFERENCE," referred to the structure of the "parallel space daughter boards as disclosed and claimed in the present application...." It was an inadvertent error to state that the "parallel" relationship was "claimed," since that term does not appear in any of the claims as currently or herebefore pending herein.

### CONCLUSION

It is respectfully submitted that the foregoing has demonstrated the lack of a prima facie case of obviousness of the combination of Perotto and Potter, relied upon in support of the rejections since the two references are contradictory to each other and for example, modification of Potter in accordance with the teaching of Perotto would destroy the alleged advantages asserted by Potter of utilizing a single riser board - - which is equally true if Perotto were to be modified in accordance with the teaching of Potter.

Thus, there is no motivation to combine Potter and Perotto, and prima facie obviousness has not been established.

In addition, even if Potter and Perotto were somehow combinable, any such combination fails to achieve the claimed feature of overlapping electronic parts mounting boards, as is recited in both independent claim 1 and independent claim 2.

For at least the foregoing reasons, the invention recited in independent claims 1. and 2 is nonobvious over the applied art, and the rejection should be withdrawn.

Because claims 3, 4, and 7 depend from independent claims 1 and 2 and, respectively, inherit the patentably distinguishing recitations of these independent claims, the rejections of these dependent claims should also be withdrawn.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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**CERTIFICATE UNDER 37 CFR 1.8(a)**  
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 6, 2006  
STAAS & HALSEY  
By: [Signature]  
Date: 9/6/06



FIG. 7

